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Assessment of thinking style in patients with recurrent major depression

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The study is aimed to describe and analyse the thinking style in patients with recurrent major depression. The thinking style during three years after discharge from hospital has been analysed. The results of this study indicate that a depressive cognitive style of individuals who have undergone a severe depression is not self-limited, nor does it cease with remission of clinical symptoms. Such disturbances in thinking style may play a crucial role in the length and quality of remission.

Key words: thinking style, major depression

Introduction

Major depression disrupts all strata of human functioning: somatic, affective, behavioural, motivational, and cognitive. In the traditional understanding of major depression, cognitive disturbances are considered to be secondary symptoms of the disease, which abate with other clinical signs. Such a view of major depression has resulted in a lack of studies to fathom cognitive function in this group of patients. Meanwhile, clinical studies suggest that a "depressive outlook" persists in persons who have undergone a major depression. Such an outlook prevails even several years after completion of clinical treatment. Despite a great deal of progress in pharmacotherapy of depression, this disease still constitutes a profound clinical, social and economic problem. It is therefore necessary to search out new therapeutic options and attain a better understanding of cognitive function in depressed patients. All studies to date indicate the existence of a specific – negative – thinking style in depressive patients and the occurrence of a "depressive worldview" during exacerbations of clinical symptoms [1]. Depressive patients differ from non-depressive individuals in self-esteem. They perceive more negative than positive traits within their own person. They perceive their surroundings in a manner, which is unfavourable to them. They have a particular tendency to memorise and recall negative events. In ascertaining the causality of negative events, they see such events as stable and global [14]. At the same time, they fail to see their potential to create positive situations in their lives.

Studies of cognitive function in depressive patients reveal that these patients are characterised by negative self-esteem [5, 15], a depressive perception of their environment and dysfunctional convictions [8]. Results of these studies are in agreement with Beck's cognitive conception of depression.

Beck's conception proposes that dysfunctional convictions are relatively stable and are predictors of recurrence of depressive disturbances. This means that these characteristics should be present at times of remission and at the same time constitute a risk factor for a recurrence. However, many results cited in literature cast doubt on the possible existence of dysfunctional convictions in persons without current clinical signs of depression. Investigations testing the theory of learned helplessness indicate the existence of a relationship between the occurrence of internal, stable and global attribution of causality and the degree of intensification of depression [13]. Longitudinal studies carried out on groups of volunteers did not show equivocally that the occurrence of a negative attributional style in depressed patients is a constant trait of cognitive function in these patients either prior to depression or following its remission [6, 7]. A different group of studies indicates that a feeling of helplessness and hopelessness may, however, be responsible for evoking depressive states and maintaining mood disturbances. The above selection of study results demonstrates a controversy regarding cognitive function of depressive patients. It is also unclear what role the changes in cognitive function play in the development and evocation of successive recurrences of depression.

Material and method

At the Department of Psychiatry of the Jagiellonian University, Collegium Medicum, a longitudinal study of a group of patients hospitalised due to profound depressive disturbances fulfilling the DSM III R criteria for major depression was initiated in 1992. The presented investigation consisted of two phases. The First Phase included the first assessment – at the time of admission and the second assessment – after the patient achieved symptomatic improvement. The remaining 3 assessments constituted the Second Phase, and were carried out as follow-ups every 12 months at: 12, 24 and 36 months after discharge.

I. STUDY GROUP

The study group consisted of 38 people (19 women and 19 men) treated and hospitalised for acute episode of major depression. During follow-up assessments, these subjects did not show, in a clinical sense, any severe depressive disturbances and did not undergo cognitive therapy. The results of the subject group were compared with the results obtained from a sex and age- matched control group.

II. METHODS

In order to assess cognitive functioning of the subjects, the following methods were employed:

Automatic Thought Questionnaire (ATQ); Constructed by Hollon and Kendall [9], it is intended for assessment of the frequency of negative automatic thoughts

characteristic to a depressive thinking pattern. The ATQ consists of 30 statements in the form of negative thoughts, which appear with varying frequency in depressive individuals.

Hopelessness Scale (HS); The Hopelessness Scale serves to examine the degree of intensity of negative and pessimistic appraisal of the future. Constructed by Beck in 1974 [3], it refers to the third (constitutional) cognitive triad, which describes a vision of the future. The HS has found use in studies on the depressive thinking style. It may also serve to evaluate the risk of suicide [2].

Rosenberg self-esteem Scale (RS); This scale is intended for measurement of general self-esteem. It was constructed by Rosenberg in 1965 [11].

Attributional Style Questionnaire (ASQ); This questionnaire (Peterson 1982 [10]) is a method directly connected with the theory of learned helplessness [12]. It tests for the occurrence of a specific attributional style in depressive patients. A depressive attributional style is expressed:

1) by assigning oneself responsibility for the occurrence of unfortunate events (internal attribution of negative events);
2) in the conviction that the causes of unfortunate events are of a constant character and are not subject to change (stable attribution of negative events);
3) in the convictions that these causes are responsible for all misfortune befalling the patient (global attribution of negative events).

The severity of depressive disturbances was evaluated with the **Beck Depression Inventory (BDI).** This test was intended for assessment of severity of depressive symptoms. Developed by the author of the cognitive concept of depression, A. Beck [4], this test takes into consideration the affective, behavioural, cognitive, motivational and autonomic aspects of depression.

Results

Analysis of the obtained results encompasses a four-year cycle of investigations. It takes into consideration the results obtained from patients during severe depressive episode (first assessment), the results obtained after remission of the clinical signs of depression as well as the results of assessments during the three-year follow-up (Table 1).

Table 1

Averaged results obtained from the study group as compared with results from the control group

Methods	Assessment 1 (A1)		Assessment 2 (A2)		Assessment 3 (A3)		Assessment 4 (A4)		Assessment 5 (A5)		Control group - results	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
BDI	38,82	7,57	11,03	4,2	13,6	6,2	14,5	7,12	13,9	6,8	3,5	3,15
ATQ	91,32	21,4	58,87	17,4	63,21	23,8	61,18	24,6	64,89	23,9	45,84	11,1
HS	16,45	4,27	8,47	4,99	9,05	6,21	9,08	6,63	9,68	6,55	3,34	2,81
RS	37,89	12,8	63,84	17,0	60,87	18,4	64,71	21,1	64,79	21,6	82,24	14,0
ASQ1	24,4,89	4,89	29,66	6,03	27,68	6,41	28,18	6,25	27,39	7,27	30,34	5,56
ASQ2	26,05	5,07	31,34	5,68	30,11	5,30	30,34	5,30	29,89	4,58	32,39	5,64
ASQ3	25,47	5,85	28,26	5,43	27,13	6,40	27,79	5,67	26,92	6,68	28,63	6,69
ASQ4	29,39	6,64	25,50	7,20	27,68	6,73	29,18	7,59	26,92	6,68	20,58	7,77
ASQ5	25,97	6,81	23,68	4,82	24,58	7,07	23,47	8,43	25,68	7,57	21,68	7,11
ASQ6	24,89	7,03	20,39	5,67	22,68	7,95	20,79	8,99	22,47	8,16	17,42	7,12

BDI – Beck Depression Inventory
ATQ – Automatic Thoughts Questionnaire
HS – Hopelessness Scale
RS – Rosenberg Scale
ASQ1 – Attributional Style Questionnaire (positive events in the internal/external dimension)
ASQ2 – Attributional Style Questionnaire (positive events in the unstable/stable dimension)
ASQ3 – Attributional Style Questionnaire (positive events in the global/specific dimension)
ASQ4 – Attributional Style Questionnaire (negative events in the internal/external dimension)
ASQ5 – Attributional Style Questionnaire (negative events in the unstable/stable dimension)
ASQ6 – Attributional Style Questionnaire (negative events in the global/specific dimension)

The BDI results obtained from the study group indicate an occurrence of severe depression in these patients in the first period of the study. There is a clearly demarcated reduction of depressive disturbances in the next phase of the study followed by a plateau of scores over the next three years. The average scores on the BDI point to the persistence of mild depressive disturbances in the study group. Quality analysis of the study results shows that an increase in the scores on the BDI concerns items describing depressive cognitive disturbances.

Frequency analysis of the occurrence of negative thoughts in the study group encompassed the period of hospitalisation as well as follow-up assessments. It was based on the results of the ATQ obtained from study group members.

Healthy subjects achieved an ATQ score of 45.8. A statistically significant difference was found between the results from the study group at all phases of the study, and the results obtained from controls.

Analysis of the obtained results indicates a high frequency of negative thoughts during exacerbation of clinical symptoms of depression as well as after the remission of the symptoms of depression. The high frequency of negative thoughts persisting throughout the three-year follow-up period did not ever fall to the levels noted in the healthy subjects ($p<0.05$). These results suggest that during the post-hospitalisation period there is a high frequency of depressive thoughts. These thoughts relate primarily to the sense of lack of influence on one's own life, the conviction of one's helplessness and, as a consequence, a low self-esteem. Persistence of such thoughts during the 3-year follow-up period indicates that they are of a constant and permanent nature and that they have an influence on the persistence of a depressive pattern of cognitive function in the patients studied. In the contents of statements collected from patients during the study, there also was a marked tendency in patients to use depressive schemas of cognition supported by "depressive errors of logical thinking".

Analyses of Hopelessness Scale revealed that a statistically significant difference ($p<0.05$) occurred only between the first assessment of severely depressed patients, and the results of all remaining assessments of those patients. The average HS score of healthy subjects was 3.34 and differed significantly from all scores obtained from the study group.

The presented results indicate that the greatest feeling of hopelessness occurred in patients in the most severe phase of depressive disturbances. With remission of depressive symptoms, a reduction in the feeling of hopelessness was also observed (statistically significant difference, $p<0.05$).

Worsening of scores was observed during the third assessment (first follow-up, 12 months after discharge). However, no statistically significant differences were observed between the scores from the second assessment and those from the successive assessments (# 4 & 5). These results point to the persistence of a severe feeling of hopelessness in the study patients. According to Beck [2], such a high score may be a predictor of suicide attempts, it indicates a persistence in this group of a conviction that life has no value and suggests a possibility of the occurrence of constant suicidal thoughts. In the fifth assessment, carried out at 36 months after discharge, an increase of HS scores was observed. No statistically significant differences occurred between

the preceding assessments (# 2,3, & 4) and the fifth assessment. It cannot be excluded, however, that successive assessments could show a greater increase in HS scores in patients with a past history of major depression.

A statistically significant difference was found between the results of self-esteem (RS) in the first assessment and those obtained in successive assessments. For comparison, healthy subjects scored an average of 82.23, which constituted a statistically significant difference ($p<0.05$) from the scores of study patients across all phases of the investigation.

The presented results indicate that self-esteem of subjects during severe depression was decidedly negative. After achieving symptomatic improvement (2nd assessment), self-esteem scores increased. During the second assessment self-esteem was better in comparison to other assessments. However, data analysis indicated that self-esteem was still dominated by negative contents and the study group members had not attained the same level of self-esteem as controls. Interview data confirmed the data from RS tests and also drew further attention to the low self-esteem characteristic of the study patients. These individuals felt unsatisfied with themselves, did not feel that they deserved acceptance from their peers, believed themselves unworthy to expect positive appraisal from others and demonstrated little faith in their own capabilities.

Analysis of the attribution of positive events takes into consideration 3 dimensions: "internal/external", "unstable/stable", "global/specific".The obtained results indicate the occurrence of external, stable, and specific attribution of positive events in patients who are in a severe depression. Patients' tendency to assign specific attribution of positive events may suggest that despite the severe depressive disturbances and the conviction that all that is positive is exclusively due to coincidence, they hope that one day they would be able to create positive situations in their lives. In the second assessment, carried out upon the patient's achievement of clinical remission, internal attributions in the attributional style of positive events began to appear, and they had a stable and global dimension, simultaneously. Following the remission of clinical symptoms of depression, the attributional style of positive events underwent a change. Patients more frequently recognised their roles in developing positive situations. Analysis of statistical significance showed, however, that although the attributional style immediately following the remission of clinical signs did not differ statistically from the attributional style of healthy subjects, there was a marked difference between healthy controls and study patients 12 months after the discharge ($p<0.05$). In the attributional style of positive events a change towards a more depressive view of the causality of positive events was noted, as were tendencies to dismiss one's own abilities and to perceive successes as exclusively due to chance.

Attribution of negative events was also analysed in the following dimensions: "internal/external", "stable/unstable" and "global/specific". The obtained data draw our attention to the persistent depressive attributional style of negative events throughout all phases of the investigation. Statistically significant differences appeared between the results of the first and second assessment. Severely depressed individuals are characterised by a depressive attributional style of negative events in all dimen-

sions, which improves with symptomatic improvement. However, statistical analysis showed that results of the first and second assessment differ statistically from the results of the same assessments of healthy subjects. At the third assessment, carried out 12 months after discharge, a new intensification of depressive attributions of negative events was observed. The patients' tendency to assign themselves the responsibility for negative events and perceive the causes of these events in stable and global terms was clearly marked.

The attributional style of negative events assessed 12 months after discharge does not differ from the attributional style at the stage of most severe depressive disturbances. This is true for all three dimensions analysed. At the fourth assessment (24 months after discharge) the results obtained from the fourth subcomponent of the Attributional Style Questionnaire (assessing internal attribution) remained at the same level as they had been during the period of most severe depressive symptoms. Despite the changes observed in the levels of individual results in the successive assessments, all results obtained from the study patients were found to differ significantly from those in healthy subjects ($p<0.05$). Thus, the depressive attributional style of negative events seems to be a constant characteristic of cognitive functioning of individuals susceptible to depression.

Discussion

Analysis of the dynamics of the changes in thinking style of individuals susceptible to major depression indicates the existence of constant characteristics of cognitive functioning, which does not change with time. A significant intensification of a depressive thinking style during the period of severe depressive disturbances followed by a reduction of their intensity immediately after symptomatic improvement and their persistence at a constant level over the next three years is observed. Thinking style of the individuals who have undergone major depression differs significantly from that of healthy individuals.

Persistence of the depressive thinking style in individuals with a past history of major depression may be responsible for recurrences, life failures, a lack of perspectives, and suicide attempts. Therapists working with individuals who have undergone a severe depression frequently deal with suicide attempts in individuals who, earlier, were not recognised to have a recurrence of clinical symptoms of depression. In therapeutic contact with such patients, signs of negative, depressive thinking are often observable. The fact that these individuals, after having undergone a depression, withdraw from professional and social life, become apathetic, avoid social contact and describe themselves as failures requires deeper concern. It seems that the causes of such behaviour should be sought in these people's depressive thinking style, in the persistence of negative convictions about themselves and the world, a lack of perspectives and plans for the future. According to Beck's cognitive conception of depression, a depressive system of information processing is responsible for the persistence of a depressive cognitive style. These individuals commit "errors of logical thinking" that support negative judgements of themselves, the world, the future, and

evoke negative automatic thoughts. In therapeutic work, it often turns out that these patients are guided by their depressive schemas of cognitive selection and organisation of information which, by seeming to them logical and reliable, are very difficult to verify. At the same time, a patient's difficult life circumstances serve to confirm the entire system of judgements and convictions, which he or she has constructed about himself/herself.

The results of this study indicate that a depressive thinking style of individuals who have undergone a severe depression is not self-limited, neither does it cease with remission of clinical symptoms. Assessments carried out immediately after the patients had achieved symptomatic improvement showed only transient and brief positive changes in their cognitive functioning.

These changes may result from the supportive environment of the ward and from pharmacotherapy. Hospitalisation includes the patients' perception of an improved sense of well-being, the disappearance of symptoms due to antidepressant therapy, the therapist's effort to build the patients' faith in their capabilities as well as the concurrent lack of a full confrontation with reality. These factors help induce a more positive self-image and outlook on the future, which become demonstrated in changes in cognitive functioning. The results of this study indicate, however, that patients at this phase of recovery do not attain the level of cognitive functioning similar to that of healthy subjects.

Unfortunately, on returning to their home environments, the lack of their therapists' support and the problems of everyday life reactivate the patients' depressive cognitive functioning, which makes the impression of a permanent, cohesive and unchanging with time functioning pattern.

The obtained results indicate the existence of a constant depressive thinking style in individuals who have undergone a major depression.

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